

NEW CLAIMS

What I claim is:

13. (new) A threaded hole finishing tool comprised of :

A deburring tool for use in conjunction with a threading tap having spiral or helical flutes, said deburring device being comprised of a cutter body having cutting members of a spiral or helical nature conforming to the spiral or helical nature of the flutes in said threading tap, said cutting members having guiding edges at their contact point with the taps flutes that are separated by an inside surface that allow the cutting body to axially move up and down along the taps flutes and simultaneously rotate with the helical nature of the taps flutes while not engaging the taps cutting edge and or non-cutting edge while being resiliently held to said tap by means of a spring or similar resilient component which urges said cutter body towards the cutting end of said tap.

14. (new) A deburring tool as described in claim 13, wherein the cutting members of said deburring tool and the spiral flutes of said threading tap have a helix angle greater than the critical angle of 45 degrees and less than 60 degrees and where the cutting edge of the deburring tool is ground to cut in the same direction as the taps cutting direction and as the taps rotational direction is reversed for removal from the hole the deburring tools relieved non-cutting edge rides in contact with the threaded holes top surface.

15. (new) A deburring tool as described in claim 13, wherein the cutting

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members of said deburring tool and the spiral flutes of said threading tap have a helix angle less than the critical angle of 45 degrees and more than 5 degrees and where the non-cutting relieved edge of the deburring tool rides the top surface of the hole as it is being threaded and when the rotational direction of the tap is reversed the cutting edge of the deburring tools cutting members, which are ground to cut in the opposite direction as the tap would cut removes material from the top of the hole.

16. (new) A deburring tool as described in claim 13, wherein the cutting members of said deburring tool and the spiral flutes of said threading tap have a helix angle less than the critical angle of 45 degrees and more than 5 degrees and the cutting edge of the deburring tool is ground to cut in the same direction as the taps cutting direction and as the taps rotational direction is reversed for removal from the hole the deburring tools relieved non-cutting edge rides in contact with the threaded holes top surface.

17. (new) A deburring tool as described in claim 13, wherein said threading tap is a combination drill and tap.

18. (new) A deburring tool as described in claim 14-16, wherein said threading tap is a combination drill and tap.

19. (new) A deburring tool as described in claim 17, wherein the said cutting members are configured to spot face or counterbore.

20. (new) A deburring tool as described in claim 18, wherein the said cutting members are configured to spot face or counterbore.